Amendments to the Specification:

Please replace paragraph [0023] with the following amended paragraph:

According to various embodiments, various types of valves can be arranged between the sample-containment feature and other channels, loading features, or sample-containment features that may be included in or on the device. The valves can be selectively opened and closed to manipulate fluid movement through the device, for example, with the assistance of a centripetal force. As will be more fully described below and as shown in [[in]] the drawing figures, the gas trap can be arranged in fluid communication with the sample-containment feature and can be capable of collecting gas that is displaced from the sample-containment feature during a liquid loading procedure. When it is desired to move the liquid from the sample-containment feature to a subsequent sample-containment feature, the gas trapped in the gas trap can assist in breaking up the surface tension of the liquid and causing the liquid to be moved further downstream, for example, into a subsequent sample-containment feature. Spinning the device can be used to force the liquid through a processing pathway that includes the sample-containment feature. Valving methods that can be used for manipulating liquid in the devices described herein, are exemplified with reference to **FIG. 1**.

Please replace paragraphs [0041] and [0042] with the following two amended paragraphs.

As shown in **FIG. 5**, upon retracting the opening deformer **36** from contact with the microfluidic device **100**, the elastically deformable cover sheet **40** can rebound at least partially back toward its initial substantially planar orientation, while the deformable material of the substrate **22**, if less elastic that the cover sheet **40**, can remain deformed. As a result, the fluid communication **35** can be formed. The fluid communication **35** can be defined by the cover sheet **40** and the depression **19**, and can extend to fluidically interconnect sample-containment features, such as one or more sample wells **26**, flow distributor **29**, outputs chamber **37**, and the like. The depression **19** can exhibit a variety of cross-sectional shapes depending upon the tip design of the opening deformer **36**. For example, an opening deformer design including a straight edge, a chisel-edge, a pointed-blade edge, and the like, can be used to form the

depression **19** in the substrate **22**. According to various embodiments, the shape of the tip portion **38** of the opening deformer **36**, and the force applied to the microfluidic device **100** by the opening deformer can be arranged to prevent the opening blade from cutting or ripping through the cover sheet.

FIG. 6 illustrates an enlarged perspective view of the depression **19** that can be formed in the substrate **22** with an opening deformer (shown in **FIG. 5**). For the sake of clarity, a cover sheet and adhesion material are not shown in **FIG. 6**. According to various embodiments, the depression **19** can extend between the flow distributor **29** and an inlet portion **23** of the sample well **26**, along the entire length of the intermediate wall **24**, and through the recessed portion **52** of a displaceable material trap that has been optionally provided. ~~The depression **19** can exhibit a variety of cross-sectional shapes depending upon the tip design of the opening deformer **36**. For example, an opening deformer design including a straight edge, a chisel edge, a pointed blade edge, and the like, can be used to form the depression **19** in the substrate **22**. According to various embodiments, the shape of the tip portion **38** of the opening deformer **36**, and the force applied to the microfluidic device **100** by the opening deformer can be arranged to prevent the opening blade from cutting or ripping through the cover sheet.~~

Please replace paragraph [0056] with the following amended paragraph:

According to various embodiments and as shown in **FIGS. 2, 7,** and **8**, when a device **100** is operatively arranged on a rotating platen a portion **64** (shown in **FIGS. 7** and **8**) of the recess **62** (shown in **FIG. 6**) or bore of gas trap **60** can be arranged to be closer to an axis of rotation of the platen supporting the device **100**, compared to any portion of the sample-containment feature that the gas trap **60** is arranged in fluid communication with. As a result as the sample-containment feature is being loaded with a liquid, at least the portion **64** of the gas trap **60** can hold and trap displaced gas or air from the sample-containment feature. According to various embodiments, the gas trap **60** can be angled in a direction toward the axis of rotation of the device **100** and/or toward an axis of rotation of a platen on which the device is to be operatively positioned.